

TICSP Seminar Series

Prof. **Edward R. Dougherty**, Genomic Signal Processing Laboratory, Texas Center for Applied Technology, Department of Electrical Engineering, Texas A & M University, USA gave a series of lectures on “*Foundations of Genomic Signal Processing*”: “*The Mathematical Basis of Biological Knowledge: Epistemology of Computational Biology*”, “*The Scientific Basis of Classification: Accuracy of Error Estimation Rules*”, “*The Mathematical Basis of Systems Medicine: Optimal Control in Regulatory Networks*” and “*The Scientific Basis of Clustering: Partitioning Random Labeled Point Sets*” on June 6 - 7, 2007.

Associate Prof. **Rusen Oktem**, Atılım University, Electrical and Electronics Engineering Department, Ankara, Turkey gave a series of lectures on “*ERRL-European Remote Radio Laboratory Project*”, “*An RFID Based Moving Object Tracking System*”, “*Error Concealment in JPEG 2000*” and “*Barcode Localization and Decoding from Wireless Camera Images*” on May 8 - 10, 2007.

PhD Student **Laura Kovacs**, Tehnical University of Cluj-Napoca, Faculty of Electronics, Telecommunication, and Information Technology, Romania on “*Another approach for conversion of analog filters into digital filters*” on April 11, 2007.

Doctoral Theses

Institute of Signal Processing:

Peyman Arian, Lic.Tech.: “*Computationally Efficient Decimators, Interpolators and Narrow Transition-Band Linear-Phase Finite Impulse Response (FIR) Filters*”, on February 23, 2007. Opponents were Prof. Paulo Diniz, Federal University of Rio de Janeiro, Brazil and Prof. Lars Wanhmar, Linköping University, Sweden. Custos was Prof. Tapio Saramäki, Institute of Signal Processing.

Alireza Akhbardeh, M.Sc.: “*Signal Classification Using Novel Pattern Recognition Methods and Wavelet Transforms*” on March 9, 2007. Opponent was Prof. Rangaraj M. Rangayyan, University of Calgary, Canada. Custos was Prof. Moncef Gabbouj, Institute of Signal Processing.

Kimmo Pärssinen, M.Sc.: “*Multilingual Text-to-Speech System for Mobile Devices: Development and Applications*”, on April 27, 2007. Opponents were Docent Martti Väinö, University of Helsinki, Department of General Linguistics, Finland and Dr. Stefaan Van Gerven, NUANCE, The Netherlands. Custos was Prof. Moncef Gabbouj, Institute of Signal Processing.

TICSP 10 years Anniversary

In 2007 Tampere International Center for Signal Processing, TICSP celebrates its ten years anniversary. During these fruitful and memorable years (1997 – 2007) there have been 400 visits from 28 countries to TICSP. In addition to this TICSP has organized 255 weekly seminars, 25 summer courses, 20 international workshops (e.g. in Florence, Vienna,

Riga, Toulouse, Barcelona) and published 35 workshop proceedings and research monographs in its internationally edited TICSP series.

I wish to warmly thank all the visitors for time they have devoted to the Center and for their contributions to the co-operation and research.

Jaakko Astola

IEEE Workshop GENSIPS'07

The Fifth IEEE International Workshop on Genomic Signal Processing and Statistics will be held in Gustavslund, Tuusula, Finland on June 10 - 12, 2007. Its aim is to provide a forum for presenting new results on genomic signal processing and statistics for functional genomics and systems biology, and to identify potential areas of research and collaboration between the biological, statistical, and signal processing communities.

Areas of interest are Signal processing and statistical approaches for functional genomics problems, Reverse engineering of biological circuits, Data mining and pattern recognition methods for functional genomics, Control theory and systems theory techniques for systems biology, Models for cellular metabolism

and inter-cellular signaling, Modelling and simulation of biological regulatory networks, Novel architecture and implementation methods for large-scale functional genomics, High-throughput hardware/software approaches to genome-scale network modeling, Integration of heterogeneous data, Microarray image and data analysis and Signal processing methods in sequence analysis. The accepted papers will be published in the proceedings of GENSIPS'07.

Jaakko Astola is the general chair and **Ioan Tabus**, **Aniruddha Datta** and **Ilya Shmulevich** are the technical program chairs of the workshop. For further information please visit the workshop homepage <http://www.cs.tut.fi/gensips07/>.

TICSP Workshop SMMSP2007

The Seventh International Workshop on Spectral Methods and Multirate Signal Processing, SMMSP 2007 will be held on September 1 - 2, 2007 at the Hotel Le Royal Meridien National in Moscow, Russia. It is sponsored by the IEEE SP/CAS Chapter in Finland and Tampere International Center for Signal Processing, TICSP. The SMMSP2007 Workshop will be chaired by **Jaakko Astola**, **Mikhail Tchobanov**, **Karen Egiazarian** and **Tapio Saramäki**. **Atanas Gotchev** and **Robert Bregovic** are the publication chairs.

Workshop topics include Digital signal and image transforms, Lapped transforms, Wavelets and others, Transforms in Optics, Transforms in Digital Logic, Efficient (fast) algorithms, Multirate filter banks, VLSI implementation of transforms and filter banks, and Applications of transforms and filter banks.

All accepted papers will be published by the Tampere International Center for Signal Processing in its Proceedings and Reports Series. You can find information also at the workshop homepage <http://sp.cs.tut.fi/ticssp/smmsp07/>

FiDiPro Award

Professor **Edward Delp**, who is internationally considered a forefront scholar in multimedia signal processing research, has been selected by the Academy of Finland to the Distinguished Professor Programme for 2007 - 2010.

The goal of the Finland Distinguished Professor funding programme is to strengthen the scientific knowledge and know-how in Finland, add a more international element to the Finnish research system, generate added value into the national innovation system and support research-driven profiling of universities and research institutes.

Within the framework of the programme, universities and research institutes can hire foreign researchers or Finnish professor-level researchers who have long

worked abroad for a fixed period of time to conduct and promote research.

The programme is aimed at creating long-term international cooperation. Funding is awarded for a fixed period with a funding period of 2-5 years. Funding is particularly granted for purposes of hiring researchers who will be based in nationally significant and strategically key fields defined by universities and research institutes and who are considered to strengthen internationally competitive research and innovation in Finland.



SPIE Fellow

Professor **Jaakko Astola** has been elected to the grade of Fellow of SPIE by the Board of Directors of SPIE, The International Society for Optical Engineering.

According to the Society's bylaws, a Fellow "shall be distinguished through his achievements and shall have made outstanding contributions in the field of optics or electro-optics or in related scientific, technical, or engineering areas".

Fellow memberships shall be restricted to not more than five percent of the voting members of the Society.



Doctor Honoris Causa

On May 25, 2007 Tampere University of Technology had a conferment of 153 doctors' degrees. At the same occasion twelve people received honorary doctors' degree. These twelve *doctor honoris causa* earned their degree for both their scientific work and for their actions in society. One of these honorary doctors was Professor **Edward R. Dougherty** from Genomic Signal Processing Laboratory, Texas Center for Applied Technology, Department of Electrical Engineering, Texas A & M University, USA.

Prof. Dougherty has produced a large number of important scientific results in image and signal processing. He has also developed fundamental methods for applying signal processing techniques to biological problems. Prof. Dougherty has had a long-term co-operation with Tampere University of Technology.

The honorary doctors represent the scientific, eco-

nomical, and social communities and have distinguished themselves in the research community of their specific fields of study.

The conferment ceremony is a memorable celebration at which doctors receive the doctor's hat as a symbol of scientific freedom and a certificate for the title they have achieved.

The programme for the conferment ceremony started on May 24 with a City of Tampere reception and ballroom dancing at the City Hall. On May 25, the ceremony continued by a service at Tampere Cathedral and ended with a dinner at Tampere Hall.

On 26 May, the conferred doctors and their companions went on the traditional picnic cruise.



TUT Docentship

The Department of Information Technology has nominated Professor **Radomir Stankovic** from University of Nis, Department of Computer Science, Faculty of Electronics, Serbia as a Docent of the Institute of Signal processing on the research area of signal processing based on decision diagrams and logic transforms.

The cooperation of Radomir S. Stankovic with TICSP started in 1999 as a result of participation at TICSP Workshop in Brandenburg, Germany. From that time, he became a regular visitor of TICSP and in 2000 he was awarded by the Nokia Visiting Researcher Fellowship.

Prof. Stankovic is working with Prof. Jaakko Astola towards establishing links between different areas of signal processing and system design theory and practice. In particular, research work of Radomir Stankovic is devoted to signal processing and system design methods and algorithms, with special interest in applications of spectral methods and switching theory, multiple-valued logic, and logic design.



In and Out

Prof. **Eduard Danielian**, Yerevan State University, Department of Mathematics, Yerevan, Armenia on January 5 - February 25, 2007 and on July 15 - August 15, 2007.

Mr. **Alexander Sherstobitov**, M.Sc., South Russian State University of Economics and Science, Shakhty city, Russia on January 15 - September 15, 2007.

Dr. **Vladimir Lukin** and Dr. **Mykola Ponomarenko** on January 9 - 3, 2007. They visited TICSP again with **Sergiy Abramov**, M.Sc., on March 3 - 31, 2007. They come from Kharkov Aviation Institute, Ukraine.

Prof. **Radomir S. Stankovic**, University of Nis, Department of Computer Science, Faculty of Electronics, Nis, Serbia on March 15 - May 31, 2007. Prof. Stankovic will visit TICSP again on August 1 - September 30, 2007.

Prof. **Edward R. Dougherty**, Genomic Signal Processing Laboratory, Texas Center for Applied Technology, Department of Electrical Engineering, Texas A & M University, USA, on May 22 - June 13, 2007.

Dr. **Ivaylo Hristov**, Centre of Biomedical Engineering, Bulgarian Academy of Science, Bulgaria on May 28 - June 10, 2007.

Dr. **Ronald Pearson**, ProSanos Corporation, USA, Thomas Jefferson University, Philadelphia, USA on June 4 - 13, 2007.

Prof. **Ilya Shmulevich**, Institute for Systems Biology, Seattle, USA on June 5 - 13, 2007.

Prof. **Leonid Yaroslavsky**, Department of Interdisciplinary Studies, Engineering Faculty, Tel Aviv University, Israel on July 1 - August 31, 2007.

Prof. **Hakob Sarukhanyan**, Institute of Informatics and Automation Problems of NAS of Armenia, Yerevan, Armenia on July 1 - August 31, 2007.

Dr. **Pilar Martin-Martin**, Universidad de Alcalá, Dpto. Teoría de la Señal y Comunicaciones, Madrid, Spain on July 1 - December 31, 2007.

Prof. **Boris Ryabko**, Siberian State University of Telecommunication and Computer Science, Novosibirsk, Russia on July 20 - August 20, 2007.

Prof. **Alexandre Tsybakov**, Laboratoire de Probabilités et Modèles Aléatoires Université Paris VI, Paris, France on August 1 - 19, 2007.

Dr. **Vladimir Lukin**, Dr. **Mykola Ponomarenko** and Dr. **Alexander Totskiy**, Kharkov Aviation Institute, Ukraine on August 1 - 31, 2007.

Prof. **Edward Delp**, Purdue University, Video and Image Processing Lab., School of Electrical and Computer Engineering, USA on August 15 - September 30, 2007.

Prof. **Theodor E. Krenkel**, Moscow Technical University of Communications and Informatics, Moscow, Russia on August 1 - 31, 2007.